

**Meeting of the Central Valley Flood Protection Board  
August 26, 2010**

**Staff Report – Encroachment Permit**

**City of Chico  
Pedestrian Bridge, Butte County**

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**1.0 – ITEM**

Consider approval of Permit No. 18414 (see Attachment B).

**2.0 – APPLICANT**

City of Chico

**3.0 – LOCATION**

The project is located in Chico at Highway 99 and Humboldt Avenue.  
(Little Chico Creek, Butte County see Attachment A).

**4.0 – DESCRIPTION**

The applicant proposes to construct a 12-foot-wide, 130-foot-long pre-manufactured steel truss pedestrian bridge supported between two abutments across the channel of Little Chico Creek.

**5.0 – PROJECT ANALYSIS**

The project is to construct a 12-foot-wide, 130-foot-long pre-manufactured steel truss pedestrian bridge across the channel of Little Chico Creek to replace a dry (low water) crossing that exists now. This will require the placement of two bridge support abutments just outside the wetted perimeter, within the floodway, that occurs at design flows of 300 cubic feet per second (cfs) to support the bridge structure as designed. The design soffit elevation does not have the required soffit clearance of 2-feet. However, this not a critical issue which is explained in Section 5.1. The proposed

bridge alignment is just upstream of the existing alignment of the pedestrian trail which is to be abandoned and removed when the bridge is connected to the trail.

### **5.1 – Hydraulic Analysis**

There has been no hydraulic analysis performed for this project. However, the Army Corps of Engineers has requested an analysis. The conditions at the site of the bridge are that the proposed design will not achieve an appropriate freeboard with the design flow of 300 cfs. When any substantial flood flows occur, this site historically floods due to overbank flows which results in the proposed soffit elevation being above the water surface of the floodwaters. Staff does not see that the requested analysis can provide any useful information that would require the raising of the bridge soffit.

### **5.2 – Geotechnical Analysis**

The proposed project does not require a geotechnical analysis as the two abutments are shallow.

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has not yet been received for this application. Upon receipt of a favorable letter and review by Board staff it will be incorporated into the permit as Exhibit A.
- There is no non-federal endorsing agency for this project.

## **7.0 – CEQA ANALYSIS**

Board staff has prepared the following CEQA findings:

The Board, as a Responsible Agency under CEQA, has reviewed the Initial Study/Mitigated Negative Declaration (IS/MND, August 2008) and the Mitigation Monitoring Plan (SCH Number: 1991063074) for the Little Chico Creek Bicycle Path, prepared by the lead agency, City of Chico. These documents including project design and City resolution may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2010/8-26-2010agenda.cfm> under a

link for this agenda item. The documents are also available for review in hard copy at the Board and City offices.

The City of Chico determined that the project would not have a significant effect on the environment and filed a Notice of Determination on September 5, 2008 with the County Clerk, County of Butte. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's Initial Study/Mitigated Negative Declaration and address impacts to air quality and biological resources.

## **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

There are no effects on the State Plan of Flood Control as the proposed project does not impact the design channel capacity.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

Effects of reasonable projected future events should have no foreseeable impacts as any increased flood flows would create overbank flows prior to reaching the bridge soffit.

## **9.0 – STAFF RECOMMENDATION**

Staff recommends that the Board adopt the CEQA findings, approve the permit conditioned upon receipt of a favorable U.S. Army Corps of Engineers comment letter and direct staff to file a Notice of Determination with the State Clearinghouse.

## **10.0 – LIST OF ATTACHMENTS**

- A. Location Maps and Photos
- B. Draft Permit No. 18414
- C. Design Drawing

Design Review:	Steve Dawson
Environmental Review:	Andrea Mauro
Document Review:	Len Marino P.E.









Proposed bridge location, trees to be trimmed for safety and clearance, but not removed.



Existing bike path extending to Humboldt Avenue and Clover Street intersection (Little Chico Creek in background).

**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18414 BD**

**This Permit is issued to:**

City of Chico  
411 Main Street, PO Box 3420  
Chico, California 95927

To construct a 12-foot-wide, 130-foot-long pre-manufactured steel truss pedestrian bridge supported between two abutments across the channel of Little Chico Creek. The project is located in Chico at Highway 99 and Humboldt Avenue (Section 25, T22N, R1E, MDB&M, Little Chico Creek, Butte County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

**(SEAL)**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18414 BD**

**THIRTEEN:** All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

**FOURTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion

**FIFTEEN:** The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**SIXTEEN:** The Central Valley Flood Protection Board and/or the California Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

**SEVENTEEN:** The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.



EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior written approval of the Central Valley Flood Protection Board.

NINETEEN: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1st to April 15th.

TWENTY: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the channel during the flood season from November 1st to April 15th.

TWENTY-ONE: The abutment(s) shall be constructed parallel to the direction of flow.

TWENTY-TWO: Compaction tests by a certified soils laboratory will be required to verify compaction of backfill within the levee section or within 10 feet of the levee toe.

TWENTY-THREE: Fill material shall be placed only within the area indicated on the approved plans.

TWENTY-FOUR: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

TWENTY-FIVE: All debris generated by this project shall be properly disposed of outside the regulatory boundary of Little Chico Creek.

TWENTY-SIX: The work area shall be restored to the condition that existed prior to start of work.

TWENTY-SEVEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

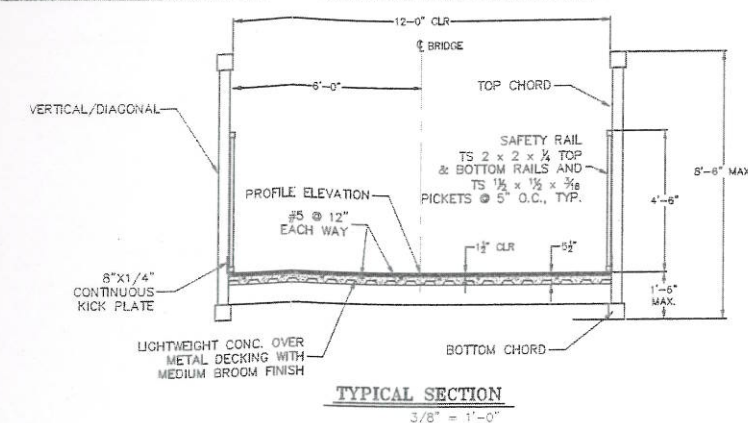
TWENTY-EIGHT: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

TWENTY-NINE: In the event that erosion injurious to the adopted plan of flood control occurs at or adjacent to the herein permitted structure, the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

THIRTY: If the herein permitted structure results in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

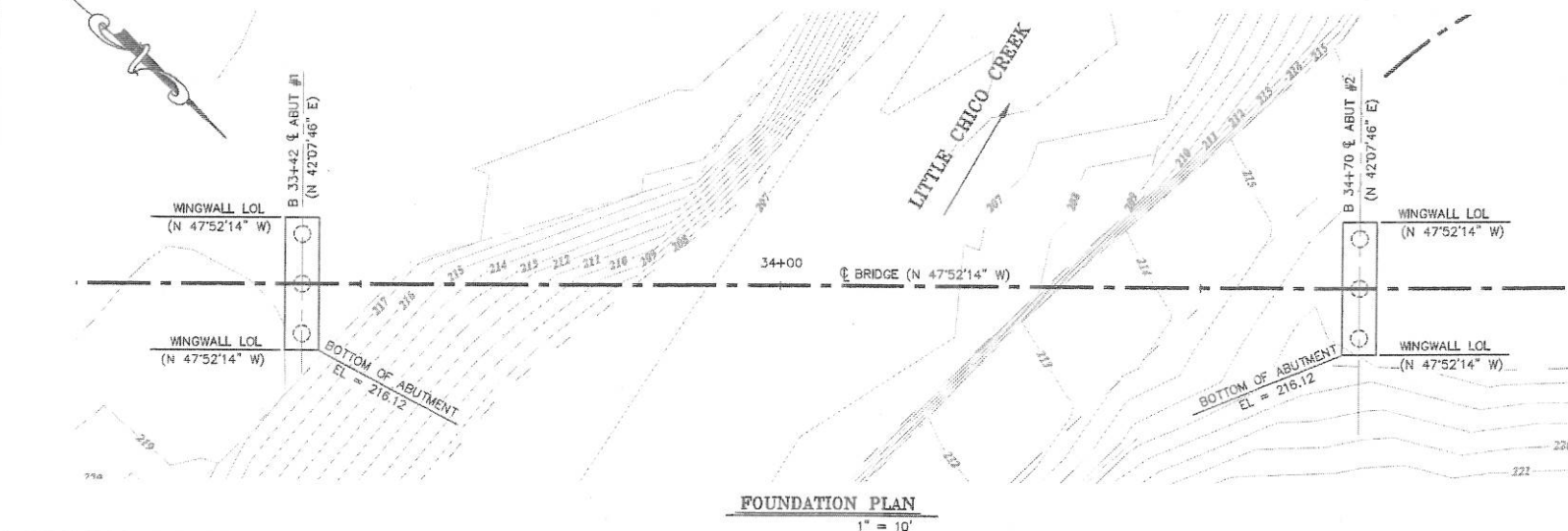
THIRTY-ONE: The permittee shall comply with all conditions set forth in the letter from Army Corps of Engineers dated xxxxx,xx,xxxx, which is attached to this permit as Exhibit A and is incorporated by reference.

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LIVE LOAD:	85 PSF UNIFORM LOAD
LIVE LOAD (POINT LOAD):	VEHICLE 10,000 LB + 30% IMPACT 20:80 F/R LOAD DISTRIBUTION (FULL SIZE PICKUP)
WIND LOAD:	80 MPH ANY DIRECTION
RAILING LOAD:	50 PLF, Laterally & Vertically
REINFORCED CONCRETE:	$f_y = 60,000$ psi $f'_c = 3,600$ psi
LIGHTWEIGHT CONCRETE:	$f_y = 60,000$ psi $f'_c = 4,000$ psi
SEISMIC LOADING:	CALTRANS SDC FIGURE 8.7 MAGNITUDE = $6.5 \pm 0.25$ SOIL PROFILE TYPE C PBS = 0.20 g
BRIDGE STEEL:	SELF WEATHERING STEEL FABRICATED FROM
ASTM	A588 STEEL FOR PLATES AND STRUCTURAL
SHAPES,	A847 FOR TUBULAR SECTIONS. MINIMUM
YIELD	STRENGTH 50,000 PSI.
FUTURE UTILITY:	ALLOWANCE FOR WEIGHT OF 12"Ø WATER LINE AND 6"Ø GAS LINE.
OTHER REQUIREMENTS:	SEE SPECIFICATIONS.

NOTES:  
1. SEE "CIVIL PLANS" FOR APPROACH GRADE DETAILS NOT SHOWN.  
2. ALL VERTICAL MEMBERS OF TRUSS AND SAFETY RAILS SHOULD BE PLUMB.



## STANDARD PLANS

DATED MAY, 2006

A10A	ACRONYMS AND ABBREVIATIONS
A10C	SYMBOLS
B0-1	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")

STANDARD PLAN SHEET NO.

DETAIL NO.

## HYDROLOGIC SUMMARY

	DESIGN FLOOD
FREQUENCY (YEARS)	100
DISCHARGE (CUBIC FEET PER SECOND)	
WATER SURFACE (ELEVATION AT BRIDGE)	

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE CITY OR CONSULTANTS. INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATION.

PILE DATA TABLE							
LOCATION	PILE TYPE	DESIGN LOADING (SERVICE)	NOMINAL RESISTANCE		CUT-OFF ELEVATION	DESIGN TIP ELEVATION	SPECIFIED TIP ELEVATION
			COMPRESSION	TENSION			
ABUT 1	24" CIDH	45 KIPS	90 KIPS	45 KIPS			
ABUT 2	24" CIDH	45 KIPS	90 KIPS	45 KIPS			

PILE DESIGN TIP ELEVATION CONTROLLED BY THE FOLLOWING DEMANDS: 1) COMPRESSION, 2) TENSION, 3) LATERAL.

Run Source:	Designed: DJH	Approved:	Revision	Date	By
	Drawn By: CTJ/CLT				
	Checked: DJH	Date: AUGUST 15, 2008			

CITY OF CHICO  
CAPITAL PROJECT SERVICES DEPARTMENT



**LA**  
**LUMOS**  
ASSOCIATI

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LITTLE CHICO CREEK BIKE PATH  
PEDESTRIAN BRIDGE - GENERAL AND FOUNDATION PLAN

Project Number: 12058-300-4150	Drawing Number 7
Scale: AS NOTED	Sheet 7 of